

# GAIN FLATTENED BI-DIRECTIONALLY PUMPED RAMAN AMPLIFIER FOR WDM TRANSMISSION SYSTEMS

## Abstract of the Disclosure

5 Raman amplification of a WDM signal with excellent gain flatness across a very large bandwidth is achieved. Co-propagating and counter-propagating Raman pumping are combined in the same fiber. Multiple pumping wavelengths are employed. Wavelengths employed for co-propagating pumping and wavelengths employed for counter-propagating pumping alternate in order of wavelength. In one embodiment, N  
10 co-propagating pump wavelengths and N+1 counter-propagating pump wavelengths are used. Alternatively, one may use N+1 co-propagating pump wavelengths and N counter-propagating pump wavelengths.